CLAIMS

1. A node selecting method in which a mobile node moving a plurality of nodes dispersedly arranged estimates a distance to a candidate node adjacent to the mobile node, and selects a node for next communication, characterized in that the mobile node executes:

a first step of specifying, as the candidate node, a node present within a communication zone of the mobile node;

a second step of calculating, for each specified candidate node, a ratio between the number of nodes present within a first region where the communication zone of the mobile node and a communication zone of the candidate node overlap each other, and the number of nodes present within second regions where both the communication zones do not overlap; and

a third step of estimating the distance on the basis of the ratio.

2. The node selecting method according to claim 1, characterized in that the mobile node further executes a fourth step of selecting a node for next communication, on the basis of the estimated distance.

3. A node selecting method in which a mobile node moving a plurality of nodes dispersedly arranged estimates

a distance to a candidate node adjacent to the mobile node, and selects a node for next communication, characterized in that the mobile node executes:

a first step of specifying a node present within a communication zone of the mobile node;

a second step of specifying a designated node out of the neighbor nodes;

a third step of specifying a next neighbor node present within a communication zone of the designated node;

a fourth step of counting a common node number as the number of nodes common to the neighbor node and the next neighbor node;

a fifth step of counting a non-common node number as the number of nodes not common to the neighbor node and the next neighbor node; and

a sixth step of estimating a distance between the mobile node and the designated node, on the basis of a ratio between the common node number and the non-common node number.

4. The node selecting method according to claim 3, characterized in that the mobile node further executes a seventh step of selecting a node for next communication, on the basis of the estimated distance.

5. The node selecting method according to claim 1 or 2, characterized in that the number of nodes is modified

by the following equation to be counted when nodes are unevenly distributed in the first region:

$$N-\sum_{j=1}^{M}(S_j-3)$$

where N is the total number of nodes being in the first region; S_j is the number of nodes included in a complete graph when the number of complete graphs each including four or more nodes is M; and j = 1, 2, …, M.

6. The node selecting method according to claim 1 or 2, characterized in that the number of nodes is modified by the following equation to be counted when nodes are unevenly distributed in the first region:

$$N-\sum_{j=1}^{M}(S_j-3)+\sum_{\substack{j,k=1\\ j\neq k}}^{M}O_{jk}$$

where N is the total number of nodes being in the first region; S_j is the number of nodes included in a complete graph when the number of complete graphs each including four or more nodes is M; Q_{jk} is a modification item when the number of nodes present within the region where two complete graphs G_j and G_k are overlapping is N_{jk}, $O_{jk} = 0$ when $N_{jk} = 0$, and $O_{jk} = N_{jk} - 1$ when $N_{jk} \neq 0$; and j, k = 1, 2, …, M.

7. The node selecting method according to claim 1 or 2, characterized in that the number of nodes is modified by the following equation to be counted when nodes are unevenly distributed in the first region:

$$N - \sum_{j=1}^{M}(S_j - 3) + \sum_{\substack{j,k=1 \\ j \neq k}}^{M}(O_{jk} - M_{jk})$$

where N is the total number of nodes being in the first region; S_j, S_k is the number of nodes included in a complete graph when the number of complete graphs each including four or more nodes is M; Q_{jk} is a modification item when the number of nodes present within the region where two complete graphs G_j and G_k are overlapping is N_{jk}, $O_{jk} = 0$ when $N_{jk} = 0$, and $O_{jk} = N_{jk} - 1$ when $N_{jk} \neq 0$; M_{jk} is an amendment item, $M_{jk} = 1$ when $S_j - N_{jk} = 1$ or $S_k - N_{jk} = 1$, and $M_{jk} = 0$ when $S_j - N_{jk} \neq 1$ and $S_k - N_{jk} \neq 1$; and j, k = 1, 2, …, M.

8. The node selecting method according to claim 1 or 2, characterized in that neighbor node lists are compared with each other in relation to all nodes present within each region; even a plurality of nodes are counted as one if the plurality of nodes have the same neighbor node list; and the number thus counted is used as the modified number of nodes of the region.

9. The node selecting method according to claim 1 or 2, characterized in that the mobile node executes the first to third steps at predetermined periods.

10. The node selecting method according to claim 3 or 4, characterized in that the mobile node executes the first to sixth steps at predetermined periods.

11. The node selecting method according to claim 9 or 10, characterized in that the predetermined period is changed in accordance with a movement speed of the mobile node.

12. The node selecting method according to claim 9 or 10, characterized in that the predetermined period is changed in accordance with an arrangement density of the plurality of nodes.